

WHAT IS CLAIMED IS:

1. A magnetic recording medium comprising a recording layer and an electrode layer disposed on a substrate, wherein the recording layer and the electrode layer are disposed in the same plane.

2. The magnetic recording medium according to Claim 1, wherein the electrode layer is disposed adjacently to the end portion of the plane in which the recording layer on the substrate is disposed.

3. The magnetic recording medium according to Claim 1, wherein the substrate comprises an insulating material.

4. The magnetic recording medium according to Claim 3, wherein at least one substrate electrode layer satisfying the relationship represented by

$$\text{resistivity } (\Omega\text{cm})/\text{film thickness (cm)} \leq 100 (\Omega)$$

is disposed between the substrate and the recording layer.

5. The magnetic recording medium according to Claim 1, wherein the distance between the recording layer and the nearest electrode layer is 3 cm or less.

6. The magnetic recording medium according to Claim 1, wherein a matrix surrounding magnetic material portions of the recording layer comprises alumina as a constituent provided by anodization of aluminum.

7. The magnetic recording medium according to Claim 1, wherein a matrix surrounding magnetic material portions of the recording layer comprises at least one of Si and Ge or an oxide thereof as a constituent.

8. The magnetic recording medium according to Claim 1, wherein the electrode layer comprises aluminum as a constituent.

9. The magnetic recording medium according to Claim 1, wherein the electrode layer comprises AlSi or AlSiGe as a constituent.

10. A magnetic recording playback device comprising the magnetic recording medium according to Claim 1.

11. An information processing device including a magnetic recording playback device comprising the magnetic recording medium according to Claim 1.